

Part no. **XN-322-4AIO-U2**
183181

| General specifications | | |
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| Product name | | Eaton XN-322 I/O module |
| Part no. | | XN-322-4AIO-U2 |
| EAN | | 4015081781140 |
| Product Length/Depth | | 104.2 millimetre |
| Product height | | 16.8 millimetre |
| Product width | | 80.3 millimetre |
| Product weight | | 0.055 kilogram |
| Certifications | | UL File No.: E135462 IEC/EN 61000-6-2 CULus CE IEC/EN 61000-6-4 IEC/EN 61131-2 |
| Product Tradename | | XN-322 |
| Product Type | | I/O module |
| Product Sub Type | | None |
| Catalog Notes | | Reference voltage output: permissible output current of 4.17 mA per channel The max. heat dissipation is specified as the maximum power produced inside the device's housing. |
| Features & Functions | | |
| Electric connection type | | Plug-in connection |
| Features | | Analog outputs configurable Output, voltage Input, voltage Analog inputs configurable Fieldbus connection over separate bus coupler possible Input signal, configurable |
| Fitted with: | | 1 kHz, third-order low-pass input filter Parameterizable Software input filter |
| Value representation | | SIGNED16, mV, Voltage measurement |
| Voltage measurement | | ± 12 V DC, Common-mode range Open wire monitoring. -10 - 10 V DC, Measurement range > 10 MΩ, Input resistance The channels can also be used as potentiometer inputs. |
| General information | | |
| Current consumption | | 55 mA (typ.), for +5 V power supply (internal), Power supply - Input 45 mA (typ.), for +24 V, Power supply - Input |
| Degree of protection | | IP20 NEMA 1 |
| Limit frequency | | 1 kHz (third-order low-pass filter) |
| Mounting method | | Rail mounting possible |
| Number of channels | | 2, Analog Inputs |
| Overvoltage category | | III |
| Pollution degree | | 3 |
| Product category | | XN-322 analog input and output module |
| Resolution | | 12 Bit (Analog outputs) 16 Bit (Analog inputs) |
| Type | | Analog mixed module with 2 analog outputs -10 to +10 V (12 bit) and 4 analog inputs -10 to +10 V (16 bit) or potentiometer inputs (0-100%, reference output (+10 V/10 mA). XN300 I/O slice module |
| Used with | | XN300 XN-312-... |
| Voltage type | | DC |
| Ambient conditions, mechanical | | |
| Height of fall (IEC/EN 60068-2-32) - max | | 1 m |

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| Mounting position | | Horizontal |
| Shock resistance | | 15 g, Mechanical, Half-sinusoidal shock 11 ms, 18 Impacts |
| Vibration resistance | | 5 - 8.4 / 8.4 -150 Hz, 3,5 mm / 1 g |
| Climatic environmental conditions | | |
| Air pressure | | 795 - 1080 hPa (operation) |
| Ambient operating temperature - min | | 0 °C |
| Ambient operating temperature - max | | 60 °C |
| Ambient storage temperature - min | | -20 °C |
| Ambient storage temperature - max | | 85 °C |
| Climatic proofing | | Dry heat to IEC 60068-2-2 Damp heat, constant, to IEC 60068-2-3 |
| Environmental conditions | | Condensation: prevent with appropriate measures |
| Relative humidity | | 0 - 95 % (non-condensing) |
| Electro magnetic compatibility | | |
| Air discharge | | 8 kV |
| Burst impulse | | 1 kV, Signal cable 2 kV, Supply cable |
| Contact discharge | | 4 kV |
| Electromagnetic fields | | 1 V/m at 2 - 2.7 GHz (according to IEC EN 61000-4-3) 10 V/m at 0.08 - 1.0 GHz (according to IEC EN 61000-4-3) 3 V/m at 1.4 - 2 GHz (according to IEC EN 61000-4-3) |
| Emitted interference | | 47 dB (at 230 - 1000 MHz, Class A, radiated, high frequency) 40 dB (at 30 - 230 MHz, Class A, radiated, high frequency) |
| Radiated RFI | | 10 V |
| Surge rating | | 1 kV, Signal cable, unbalanced, EMC 0.5/0.5 kV, Supply cable, balanced/unbalanced, EMC |
| Voltage dips | | Voltage dips: 10 ms/Voltage fluctuations: Yes |
| Terminal capacities | | |
| Terminal capacity | | 0.25 - 1.5 mm ² , with ferrules with plastic collar according to DIN 46228-1 (ferrules crimped gas-tight) 0.25 - 1.5 mm ² , with ferrules without plastic collar according to DIN 46228-1 (ferrules crimped gas-tight) 0.2 - 1.5 mm ² , flexible without ferrule, H07V-K 24 - 16 AWG 0.2 - 1.5 mm ² , solid, H07V-U |
| Gauge pin | | A1 (according to IEC/EN 60947-1) |
| Stripping length (main cable) | | 10 mm |
| Insulating material group | | I |
| Electrical rating | | |
| Rated control supply voltage | | 10 V (Sensor/transmitter supply) |
| Rated operational current (I _e) | | Max. 0.0083 A (supply output) |
| Rated operational voltage | | 160 V (terminations) |
| Short-circuit current | | 30 mA, per channel, Analog outputs |
| Short-circuit protection | | Yes, Short-circuit strength, Analog outputs |
| Supply voltage at AC, 50 Hz - min | | 0 V AC |
| Supply voltage at AC, 50 Hz - max | | 0 V AC |
| Supply voltage at DC - min | | 18 V DC |
| Supply voltage at DC - max | | 30 V DC |
| Communication | | |
| Connection type | | 2 conductors, Voltage measurement Push-in spring-cage terminal (plug-in connection), Connection design in TOP direction 2 conductors, Analog outputs, Output voltage |
| Protocol | | Other bus systems |
| Input/Output | | |
| Accuracy | | ± 0.5 % of full scale, Analog outputs ± 0.3 % of full scale, Voltage measurement |
| Capacitive load | | 0.1 µF, Analog outputs |
| Input | | 2 Analog inputs (±10 V, Uref) |
| Input voltage | | Max. 14 V DC |
| Load current | | Not specified by plug manufacturer |

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| Measured variables | | Voltage or potentiometer |
| Number of inputs (analog) | | 2 |
| Number of outputs (analog) | | 2 |
| Output | | 2 Analog Outputs (± 10 V) |
| Output voltage | | -10 - 10 V DC (analog outputs) |
| Refresh time | | 1 ms (analog inputs, all channels) |
| Resistive load | | > 5000 Ω , analog outputs |
| Value refresh time/cycle time | | Min. 1 / 1 ms (per channel / all channels), Analog Inputs |
| Safety | | |
| Explosion safety category for dust | | None |
| Explosion safety category for gas | | None |
| Potential isolation | | Analog inputs: no Sensor/transmitter supply: no |
| Design verification | | |
| Equipment heat dissipation, current-dependent P _{vid} | | 0 W |
| Heat dissipation capacity P _{diss} | | 0 W |
| Heat dissipation per pole, current-dependent P _{vid} | | 1.018 W |
| Rated operational current for specified heat dissipation (I _n) | | 0 A |
| Static heat dissipation, non-current-dependent P _{vs} | | 1.952 W |
| 10.2.2 Corrosion resistance | | Meets the product standard's requirements. |
| 10.2.3.1 Verification of thermal stability of enclosures | | Meets the product standard's requirements. |
| 10.2.3.2 Verification of resistance of insulating materials to normal heat | | Meets the product standard's requirements. |
| 10.2.3.3 Resist. of insul. mat. to abnormal heat/fire by internal elect. effects | | Meets the product standard's requirements. |
| 10.2.4 Resistance to ultra-violet (UV) radiation | | Meets the product standard's requirements. |
| 10.2.5 Lifting | | Does not apply, since the entire switchgear needs to be evaluated. |
| 10.2.6 Mechanical impact | | Does not apply, since the entire switchgear needs to be evaluated. |
| 10.2.7 Inscriptions | | Meets the product standard's requirements. |
| 10.3 Degree of protection of assemblies | | Meets the product standard's requirements. |
| 10.4 Clearances and creepage distances | | Meets the product standard's requirements. |
| 10.5 Protection against electric shock | | Does not apply, since the entire switchgear needs to be evaluated. |
| 10.6 Incorporation of switching devices and components | | Does not apply, since the entire switchgear needs to be evaluated. |
| 10.7 Internal electrical circuits and connections | | Is the panel builder's responsibility. |
| 10.8 Connections for external conductors | | Is the panel builder's responsibility. |
| 10.9.2 Power-frequency electric strength | | Is the panel builder's responsibility. |
| 10.9.3 Impulse withstand voltage | | Is the panel builder's responsibility. |
| 10.9.4 Testing of enclosures made of insulating material | | Is the panel builder's responsibility. |
| 10.10 Temperature rise | | The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices. |
| 10.11 Short-circuit rating | | Is the panel builder's responsibility. |
| 10.12 Electromagnetic compatibility | | Is the panel builder's responsibility. |
| 10.13 Mechanical function | | The device meets the requirements, provided the information in the instruction leaflet (IL) is observed. |

Technical data ETIM 9.0

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| Programmable logic controllers PLC (EG000024) / Fieldbus, decentr. periphery - analogue I/O module (EC001596) | | |
| Electric engineering, automation, process control engineering / Control, Process Control System (PCS) / Field bus, decentralized peripheral / Field bus, decentralized peripheral - analogue I/O module (ecl@ss13-27-24-26-01 [BAA061019]) | | |
| Supply voltage AC 50 Hz | V | 0 - 0 |
| Supply voltage AC 60 Hz | V | 0 - 0 |
| Supply voltage DC | V | 18 - 30 |
| Voltage type (supply voltage) | | DC |
| Power consumption | W | 1.2 |
| Input, current | | No |
| Input, voltage | | Yes |
| Input, resistor | | No |
| Input, resistance thermometer | | No |

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| Input, thermocouple | | No |
| Input signal, configurable | | Yes |
| Resolution of the analogue inputs | Bit | 16 |
| Output, current | | No |
| Output, voltage | | Yes |
| Output signal configurable | | No |
| Resolution of the analogue outputs | Bit | 12 |
| Number of analogue inputs | | 2 |
| Number of analogue outputs | | 2 |
| Analogue inputs configurable | | Yes |
| Analogue outputs configurable | | Yes |
| Number of HW-interfaces industrial Ethernet | | 0 |
| Number of interfaces PROFINET | | 0 |
| Number of HW-interfaces RS-232 | | 0 |
| Number of HW-interfaces RS-422 | | 0 |
| Number of HW-interfaces RS-485 | | 0 |
| Number of HW-interfaces serial TTY | | 0 |
| Number of HW-interfaces parallel | | 0 |
| Number of HW-interfaces wireless | | 0 |
| Number of HW-interfaces USB | | 0 |
| Number of HW-interfaces other | | 1 |
| Supporting protocol for EtherCAT | | No |
| Supporting protocol for TCP/IP | | No |
| Supporting protocol for PROFIBUS | | No |
| Supporting protocol for CAN | | No |
| Supporting protocol for INTERBUS | | No |
| Supporting protocol for ASI | | No |
| Supporting protocol for KNX | | No |
| Supporting protocol for Modbus | | No |
| Supporting protocol for Data-Highway | | No |
| Supporting protocol for DeviceNet | | No |
| Supporting protocol for SUCONET | | No |
| Supporting protocol for LON | | No |
| Supporting protocol for PROFINET IO | | No |
| Supporting protocol for PROFINET CBA | | No |
| Supporting protocol for SERCOS | | No |
| Supporting protocol for Foundation Fieldbus | | No |
| Supporting protocol for EtherNet/IP | | No |
| Supporting protocol for AS-Interface Safety at Work | | No |
| Supporting protocol for DeviceNet Safety | | No |
| Supporting protocol for INTERBUS-Safety | | No |
| Supporting protocol for PROFIsafe | | No |
| Supporting protocol for SafetyBUS p | | No |
| Supporting protocol for other bus systems | | Yes |
| Radio standard Bluetooth | | No |
| Radio standard WLAN 802.11 | | No |
| Radio standard GPRS | | No |
| Radio standard GSM | | No |
| Radio standard UMTS | | No |
| IO link master | | No |
| System accessory | | Yes |
| Degree of protection (IP) | | IP20 |
| Degree of protection (NEMA) | | 1 |
| Type of electric connection | | Plug-in connection |
| Fieldbus connection over separate bus coupler possible | | Yes |

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| Rail mounting possible | | | Yes |
| Wall mounting/direct mounting | | | No |
| Front built-in possible | | | No |
| Rack-assembly possible | | | No |
| Suitable for safety functions | | | No |
| SIL according to IEC 61508 | | | None |
| Performance level according to EN ISO 13849-1 | | | None |
| Appendant operation agent (Ex ia) | | | No |
| Appendant operation agent (Ex ib) | | | No |
| Explosion safety category for gas | | | None |
| Explosion safety category for dust | | | None |
| Certified for UL hazardous location class I | | | No |
| Certified for UL hazardous location class II | | | No |
| Certified for UL hazardous location class III | | | No |
| Certified for UL hazardous location division 1 | | | No |
| Certified for UL hazardous location division 2 | | | No |
| Certified for UL hazardous location group A (acetylene) | | | No |
| Certified for UL hazardous location group B (hydrogen) | | | No |
| Certified for UL hazardous location group C (ethylene) | | | No |
| Certified for UL hazardous location group D (propane) | | | No |
| Certified for UL hazardous location group E (metal dusts) | | | No |
| Certified for UL hazardous location group F (carbonaceous dusts) | | | No |
| Certified for UL hazardous location group G (non-conductive dusts) | | | No |
| Width | | mm | 80.3 |
| Height | | mm | 16.8 |
| Depth | | mm | 104.2 |